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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,703	04/04/2001	David Perkinson	72125	3098

7590 11/30/2004

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EXAMINER

DAVIS, CYNTHIA L

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/825,703

Applicant(s)

PERKINSON ET AL.

Examiner

Cynthia L Davis

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/4/01</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simcoe.

Regarding claim 1, a method of selectively coupling digital communication packets, that are presented to virtual circuit input ports of a packet switch, through said switch to virtual circuit output ports thereof is disclosed in column 2, lines 12-21 of Simcoe (describing various ways of processing traffic that come into a switch). Providing a packet analysis mechanism, which is operative to analyze contents of a packet presented to said packet switch and to controllably route said respective packet to a selected virtual circuit output port of said packet switch is disclosed in column 2, lines 12-21 of Simcoe. Said packet analysis mechanism being configured as a virtual function packet flow control mechanism which is operative to execute a prescribed data flow path routine that calls successive virtual functions, which nominally encounter no conditional branching or function replacement is not specifically disclosed in Simcoe. However, in column 2, lines 22-49, the mechanism for analyzing and routing single-route data in the switch is disclosed as being simple and repetitive. It would have been obvious to one skilled in the art at the time of the invention to make the packet flow control mechanism not encounter any conditional branching or function replacement.

The motivation would be to simplify the routing of packets through the switch.

Presenting a packet coupled to a virtual circuit input port to said packet analysis mechanism thereby causing said packet to be routed to a virtual circuit output port of said packet switch is disclosed in Simcoe, column 2, lines 22-49.

2. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simcoe in view of Leach.

Regarding claim 2, storing the packet analysis mechanism in an instruction cache of a communication control processor of frame engine for said packet switch is missing from Simcoe. However, Leach discloses in column 7, lines 15-21 and column 25, lines 62-64, using an instruction cache to speedily perform repetitive functions that have been most recently used. It would have been obvious to one skilled in the art to put the packet analysis mechanism in an instruction cache. The motivation would be to have it execute more quickly than if it were in an external, less readily accessible memory.

Regarding claim 3, storing in memory exclusive of said instruction cache an auxiliary processing routine that is configured to handle exceptions to the nominal data flow path of said packet analysis mechanism is missing from Simcoe. Leach discloses in column 7, lines 15-21, having external memory devices that are used for program storage; only the most recently used instructions are in the instruction cache. It would have been obvious to one skilled in the art to store the auxiliary routine in other memory. The motivation would be to keep the most commonly used instructions in the instruction cache.

Regarding claim 4, a packet switch control mechanism for controlling the selective coupling of digital communication packets presented to virtual circuit input ports of a packet switch to virtual circuit output ports thereof is disclosed in column 2, lines 12-21 of Simcoe (describing various ways of processing traffic that come into a switch). A packet routing control processor for said packet switch including a cache for storing recently dealt-with servers is disclosed in Simcoe, column 2, lines 12-21, and column 7, lines 3-7. An instruction cache is missing from Simcoe. Leach discloses an instruction cache in column 7, lines 15-21. It would have been obvious to one skilled in the art to use an instruction cache in the switch of Simcoe. The motivation would be to have fast access to recently used instructions. A packet analysis mechanism being operative to analyze contents of a packet presented to said packet switch and to controllably route said respective packet to a selected virtual circuit output port of said packet switch column 2, lines 12-21 of Simcoe. Said packet analysis mechanism being configured as a virtual function packet flow control mechanism which is operative to execute a prescribed data flow path routine that calls successive virtual functions, which nominally encounter no conditional branching or function replacement is not specifically disclosed in Simcoe. However, in column 2, lines 22-49, the mechanism for analyzing and routing single-route data in the switch is disclosed as being simple and repetitive. It would have been obvious to one skilled in the art at the time of the invention to make the packet flow control mechanism not encounter any conditional branching or function replacement. The motivation would be to simplify the routing of packets through the switch. The packet analysis mechanism being stored in said instruction cache is also

Art Unit: 2665

missing from Simcoe. However, Leach discloses in column 7, lines 15-21 and column 25, lines 62-64, using an instruction cache to speedily perform repetitive functions that have been most recently used. It would have been obvious to one skilled in the art to put the packet analysis mechanism in an instruction cache. The motivation would be to have it execute more quickly than if it were in an external, less readily accessible memory.

Regarding claim 5, including a memory exclusive of said instruction cache for storing an auxiliary processing routine that is configured to handle exceptions to the nominal data flow path of said packet analysis mechanism is missing from Simcoe. Leach discloses in column 7, lines 15-21, having external memory devices that are used for program storage; only the most recently used instructions are in the instruction cache. It would have been obvious to one skilled in the art to store the auxiliary routine in other memory. The motivation would be to keep the most commonly used instructions in the instruction cache.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2665

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD  
11/4/2004

*CLD*  
*11/4/04*

  
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